

# Work Order ID 58999

Friday, May 21, 2010 8:46:44 AM



Page 1

Item ID: D2573

Accept



Setup Start



Revision ID:

Item Name: Saddle, Aft Out 205

Stop



Start Date: 5/21/2010 Start Qty: 8.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 8.00

Customer:

Reference:

Approvals:

Process Plan:

Date: 10-5-21

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2573	Rev E

100

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Program Batch No. 58999 Double check by: mmf ☐ 1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets ☐ 3-Machine Step No 3 per Folio FA051 and insp

12 0

110

0.00



CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine keyway as per dwg D2573 & D2574

mmf 16/06/10

12 0

120

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

mmf 10/06/10

12 0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 58999

Friday, May 21, 2010 8:46:44 AM



Page 2

Item ID: D2573

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle, Aft Out 205

Start Date: 5/21/2010 Start Qty: 8.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

*SP 10/06/14*

12

*[Signature]*

140 Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

12

*BL 10-6-14*

150 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

*⇒ M 10/06/15*

12

*[Signature]*

START TIME: 10:45 AM OVEN TEMPERATURE:  
10:15 AM FINISH TIME: 320°C

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 58999**

Friday, May 21, 2010 8:46:44 AM



Page 3

Item ID: D2573

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle, Aft Out 205

Start Date: 5/21/2010 Start Qty: 8.00



Cust Item ID:

Required Date: 5/31/2010 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality

12 BR 10-6-15

170

Identify as per dwg &amp; Stock Location: 434

0.00



Packaging

Memo

0.00

Packaging

10-6-15 SP (12x)

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/06/10 JF  
mf  
10-6-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, May 21, 2010 8:46:49 AM

Page 1

Work Order ID: 58999



Parent Item: D2573



Parent Item Name: Saddle, Aft Out 205

Start Date: 5/21/2010

Required Date: 5/31/2010

Comments: IPP: 1 As Per RevE 06-01-27 JLM

Start Qty: 8.00

Required Qty: 8.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007		Manufactured	No			100	Each	18.0000	1	8			



Saddle Billet



Location

Loc Qty

Loc Code

MAT42

18

46412

18

Bldg # 58677

12 10/06/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	58999
<b>Description:</b> Saddle, Aft Outboard	<b>Part Number:</b>	D2573
<b>Inspection Dwg:</b> D2573 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	1	2	3	4		
A	0.438	0.443		.441	.440	.441	0.441		
B	1.745	1.755		1.746	1.747	1.745	1.750		
C	3.495	3.505		3.499	3.502	3.500	3.500		
D	1.745	1.755		1.747	1.747	1.747	1.750		
E	7.990	8.010		8.005	8.005	8.008	8.006		
F	0.490	0.510		.501	.502	.498	0.497		
G	0.257	0.262		.260	.260	.260	0.260		
H	0.375	0.380		.377	.377	.377	0.377		
I	0.490	0.510		.505	.503	.502	0.504		
J	1.174	1.184		1.179	1.178	1.178	1.179		
K	0.558	0.578		.566	.570	.568	0.569		
L	1.174	1.184		1.179	1.178	1.177	1.179		
M	1.365	1.375		1.369	1.369	1.370	1.370		
N	2.495	2.505		2.497	2.498	2.498	2.500		
O	4.119	4.129		4.123	4.123	4.122	4.124		
P	0.115	0.135		.129	.127	.127	0.126		
Q	0.115	0.135		.135	.135	.135	0.135		
R	0.240	0.260		.255	.252	.255	0.256		
S	0.115	0.135		.128	.126	.133	0.130		
T	0.178	0.198		.188	.188	.188	0.188		
U	3.210	3.250		3.227	3.218	3.228	3.230		
V	0.230	0.250		.239	.237	.243	0.240		
W	0.115	0.135		.128	.127	.127	0.127		
X	0.308	0.313		.309	.310	.310	0.310		
Y	0.760	0.765		.760	.760	.760	0.762		
Z	0.352	0.372		.362	.363	.362	0.362		
AA	0.470	0.530		1.500	1.500	1.500	0.500		
AB	0.615	0.635		.618	.618	.619	0.618		
AC	0.053	0.073		.063	.063	.063	0.063		
AD	0.240	0.260	R???	0.250	0.250	0.250	0.250		
AE	1.500	1.520		1.517	1.516	1.516	1.510		
AF	0.115	0.135		.135	.135	.135	0.135		
AG	0.240	0.280		.260	.263	.262	0.270		
AH	0.240	0.260		.251	.250	.250	0.248		
AI	2.000	2.020		2.006	2.010	2.005	2.006		
AJ	0.023	0.043		.033	.033	.033	0.033		
Accept/Reject									

Measured by:	MNE
Date:	10/06/10

Audited by:	SP
Date:	10/06/11

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	58999
<b>Description:</b> Saddle, Aft Outboard		<b>Part Number:</b>	D2573
<b>Inspection Dwg:</b> D2573 Rev. E		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				5	6	7	8		
A	0.438	0.443		0.441	0.441	0.441	0.441		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.004	8.004	8.004	8.004		
F	0.490	0.510		0.497	0.501	0.490	0.490		
G	0.257	0.262		0.260	0.260	0.260	0.260		
H	0.375	0.380		0.377	0.377	0.377	0.377		
I	0.490	0.510		0.504	0.504	0.504	0.502		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		0.570	0.570	0.570	0.568		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		0.126	0.126	0.126	0.126		
Q	0.115	0.135		0.135	0.135	0.135	0.135		
R	0.240	0.260		0.255	0.255	0.255	0.255		
S	0.115	0.135		0.127	0.127	0.130	0.120		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		0.236	0.236	0.237	0.236		
W	0.115	0.135		0.132	0.133	0.132	0.134		
X	0.308	0.313		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.762	0.762	0.762	0.762		
Z	0.352	0.372		0.362	0.361	0.362	0.362		
AA	0.470	0.530	0	0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.618	0.618	0.618	0.618		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.250	0.250	0.244	0.243		
AE	1.500	1.520		1.515	1.516	1.515	1.515		
AF	0.115	0.135		0.135	0.135	0.135	0.135		
AG	0.240	0.280		0.270	0.270	0.270	0.270		
AH	0.240	0.260		0.247	0.247	0.250	0.249		
AI	2.000	2.020		2.003	2.003	2.002	2.002		
AJ	0.023	0.043		0.033	0.033	0.033	0.033		
Accept/Reject									

Measured by:	<i>[Signature]</i>
Date:	10/06/12

Audited by:	<i>[Signature]</i>
Date:	10/06/14

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	<i>[Signature]</i>

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	58999
<b>Description:</b> Saddle, Aft Outboard		<b>Part Number:</b>	D2573
<b>Inspection Dwg:</b> D2573 Rev. E		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

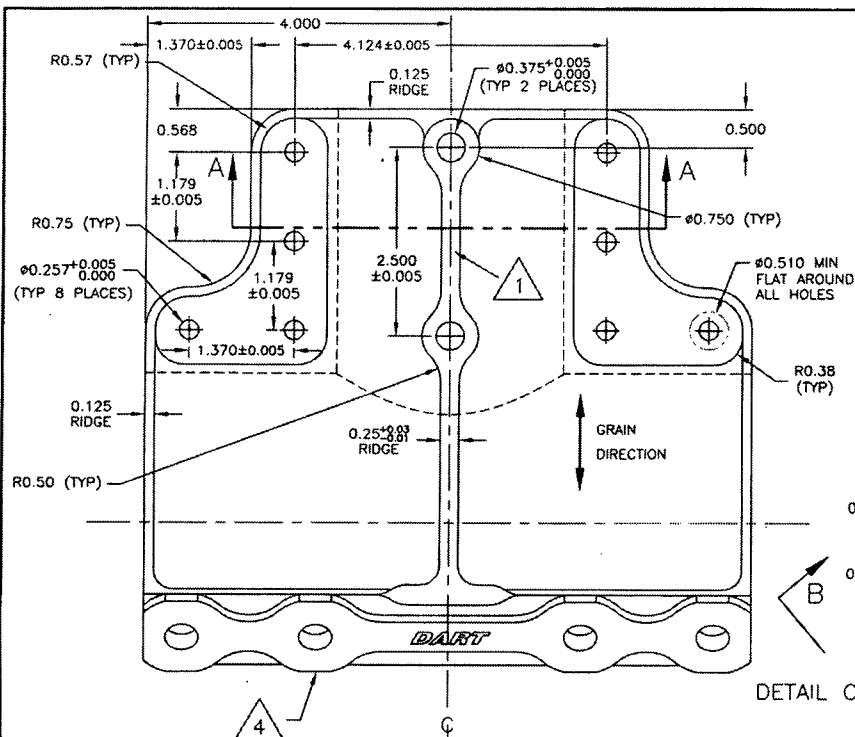
Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				9	10	11	12		
A	0.438	0.443		0.441	0.441	0.441	0.441		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.004	8.004	8.004	8.004		
F	0.490	0.510		0.490	0.497	0.508	0.498		
G	0.257	0.262		0.260	0.260	0.260	0.260		
H	0.375	0.380		0.377	0.377	0.377	0.377		
I	0.490	0.510		0.505	0.502	0.504	0.502		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		0.572	0.569	0.571	0.570		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		0.128	0.127	0.127	0.128		
Q	0.115	0.135		0.135	0.135	0.135	0.135		
R	0.240	0.260		0.255	0.256	0.255	0.256		
S	0.115	0.135		0.126	0.128	0.127	0.128		
T	0.178	0.198		0.188	0.188	0.188	0.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		0.236	0.236	0.237	0.236		
W	0.115	0.135		0.133	0.135	0.134	0.129		
X	0.308	0.313		0.310	0.310	0.310	0.310		
Y	0.760	0.765		0.762	0.762	0.762	0.762		
Z	0.352	0.372		0.362	0.361	0.361	0.363		
AA	0.470	0.530		0.500	0.500	0.500	0.500		
AB	0.615	0.635		0.618	0.618	0.617	0.617		
AC	0.053	0.073		0.063	0.063	0.063	0.063		
AD	0.240	0.260		0.245	0.245	0.244	0.246		
AE	1.500	1.520		1.517	1.516	1.516	1.5175		
AF	0.115	0.135		0.135	0.135	0.135	0.135		
AG	0.240	0.280		0.270	0.270	0.270	0.270		
AH	0.240	0.260		0.248	0.249	0.250	0.247		
AI	2.000	2.020		2.003	2.002	2.002	2.002		
AJ	0.023	0.043		0.033	0.033	0.033	0.033		

Accept/Reject

Measured by: <u>DAI</u>	Audited by: <u>SL</u>
Date: <u>10/06/12</u>	Date: <u>10/06/14</u>






Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

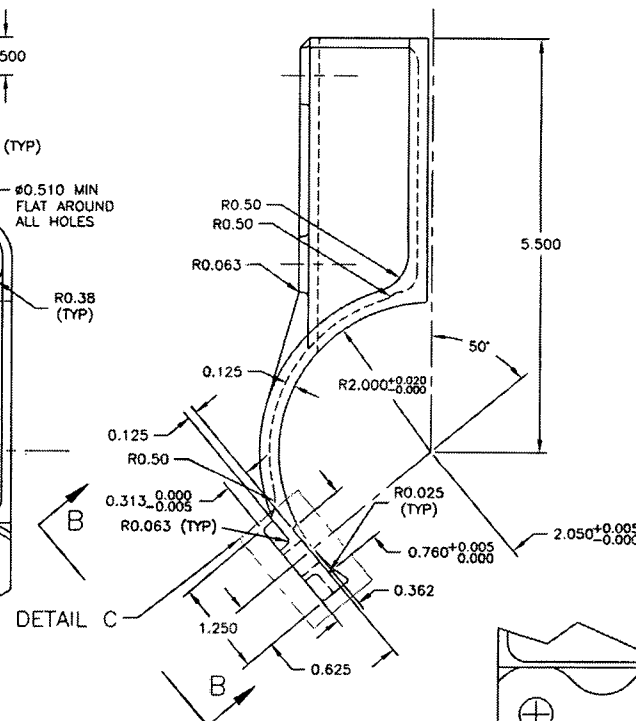
05.12.06



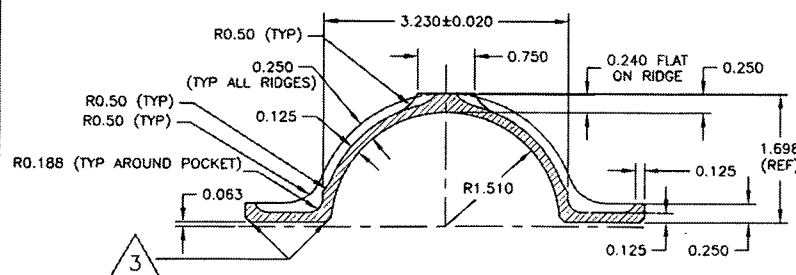
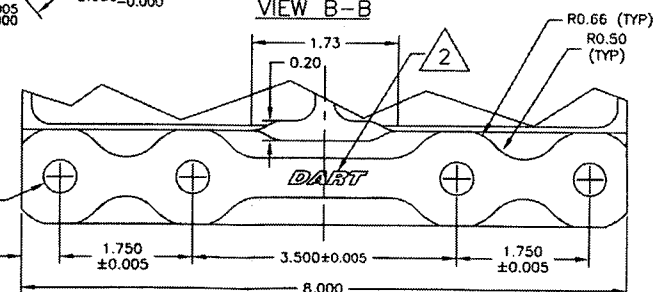
## NOTES

MATERIAL: 7075-T7351 (QQ-A-250/12)  
(REF DART SPEC. D6102-001)  
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER  
DART QSI 005 4.3  
BREAK ALL SHARP EDGES 0.010 TO 0.020  
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

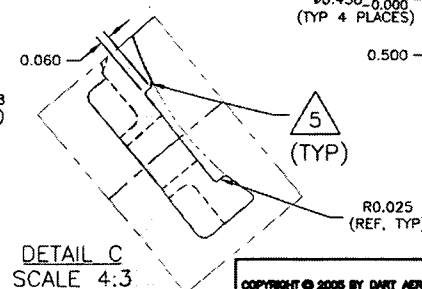
- |   |  |
|---|--|
|  | ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010 |
|  | ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125       |
|  | CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)      |
|  | CHAMFER 0.063" x 45° ALL AROUND                                  |
|  | CHAMFER 0.033" x 45° (SEE DETAIL C)                              |



VIEW B-B






SECTION A-A



DETAIL C  
SCALE 4:3

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY

SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 58999

E	05.07.13	ADD CHAMFER ON RIDGE NOTE 5
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCORP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE
DESIGN DS		DRAWN BY PH
CHECKED 		APPROVED 
DATE 05.07.13		TITLE OUTER AFT SADDLE
		 <b>DART AEROSPACE LTD.</b> MARKHAM, ONTARIO, CANADA
		REV. _____ SHEET 1 OF _____ SCALE _____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries